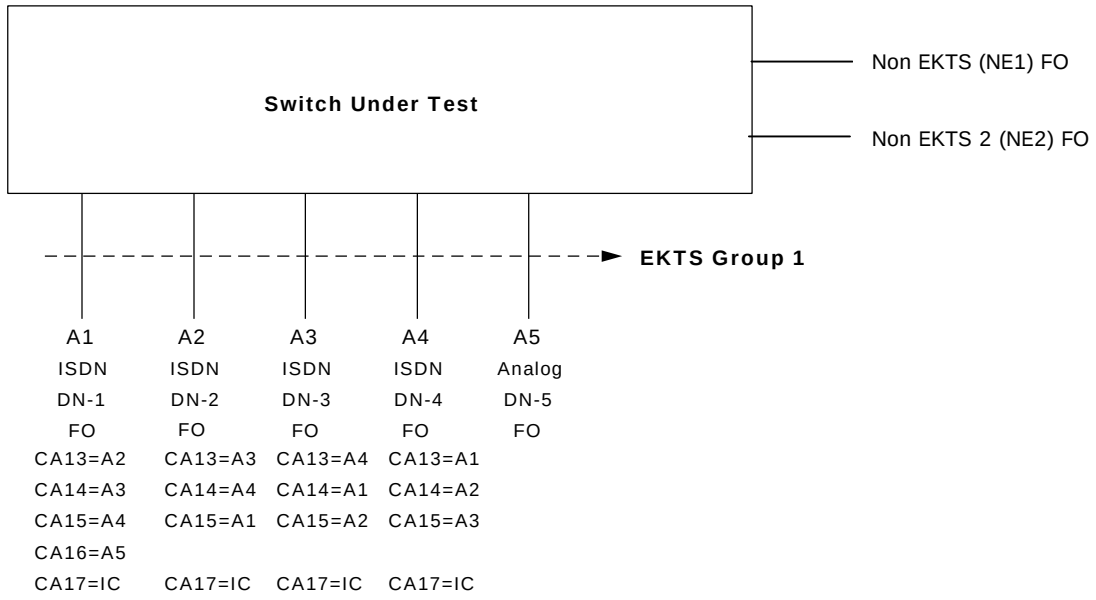
APPENDIX D-25

Detailed test procedures for Sub-Test II-25 EKTS

Electronic Key Telephone Service (EKTS)

Integrated Services Digital Network (ISDN) Electronic Key Telephone Service (EKTS) is a central office based key system feature designed to offer the end user an enhanced alternative to the existing stand alone customer premises key systems. This service provides for a terminal to be connected to the network via the standard single two-wire loop or via an ISDN Basic Rate Interface (BRI) line. This feature provides multiple station set appearances of a single DN, multiple DN appearances on a single station set, bridged call capability (both on a shared DN and across two DNs), intercom calling, privacy capability to prevent bridging, hold, and various alerting capabilities. The EKTS feature applies only to the Voice band Information (VI) Call Type (CT).

Network Setup



D-25.1 Multiple Directory Numbers (DNs) per Terminal (Criteria II-25.2a) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.1

This procedure will verify the ability to have Multiple Directory Numbers (DNs) per Terminal. Provision 4 ISDN BRI phones as members of an EKTS group as shown in the test setup diagram.

Create four EKTS subscribers (Terminals A1 – A4)	Four EKTS Subscribers created. Y/N	Comments:
Assign each subscriber to the CENTREX Group 1 with FO precedence capabilities	Each subscriber assigned FO. Y/N	
Originate a call from each EKTS Terminal to another subscriber. Verify speech and the first call appearance of each terminal is busy.	Calls complete on 1st Call Appearance. Y/N	
Place a call from an non-EKTS Terminal to each EKTS subscriber. Verify that the call rings on the 1st call appearance at each Terminal . Answer and verify speech.	Calls complete on 1st Call Appearance. Y/N	
Repeat Steps 1 – 3 using each precedence level	Calls complete as required. Y/N	

D-25-1 Multiple DNs Per Terminal (continued)

Assign the remaining subscribers to the other accesses. Assign call appearances as follows: A1 A2 A3 A4 A2 A3 A4 A1 A3 A4 A1 A2 A4 A1 A2 A3	Call appearances assigned Y/N	
Make a Routine call from Terminal A1 to Terminal A2. Verify the LEDs associated with the call appearances from A1 and A2 are lit on terminals A3 and A4. Repeat steps for each phone to verify call handling on all call appearances.	Calls show up on other phones. Y/N	
Make a Priority call from Terminal A1 to Terminal A2. Verify the LEDs associated with the call appearances from A1 and A2 are lit on terminals A3 and A4. Repeat steps for each phone to verify call handling on all call appearances.	Calls show up on other phones. Y/N	
Repeat above procedure for each precedence level.	Calls show up on other phones. Y/N	

D-25.2 Analog Member of an EKTS Group. (Criteria II-25-2b) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.2.

This procedure will demonstrate the ability to add an analog subscriber to the EKTS Group. Provision an analog subscriber as A5 and assign to the EKTS group as shown in the test setup diagram.

Originate a call from A5 to terminal A2. Verify associated call appearance on Terminal A1 lights when analog member is busy.	Call appearance for A5 lights on A1. Y/N	Comments:
Bridge onto existing call from Terminal A1 using A5 call appearance and verify speech. Hang up all phones.	A1 able to bridge into call. Y/N	
Originate a call from A5 call appearance on Terminal A1 to Terminal A2. Answer the call at Terminal A2 and verify speech.	Call Completes. Y/N	
Go off hook at analog phone A5 and verify that you can bridge into the call.	A5 able to bridge into call. Y/N	
Hang up all phones.		
Place a Priority call from NE1 to A5 and answer at A5.	Precedence ring and call completes. Y/N	
Repeat above for each precedence level.	Precedence ring and call completes. Y/N	

D-25. 2 Analog Member of an EKTS Group (continued)

Place a Priority call from NE1 to A5 and answer at A3 using A5 call appearance.	Precedence ring and call completes. Y/N	Comments
Repeat above for each precedence level.	Precedence ring and call completes. Y/N	

D-25.3 Multiple DN Appearances per Call Appearance Call Handling. (Criteria II-25.2c) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.3.

This procedure will verify the ability to assign multiple DNs to one call appearance. The same test setup as shown in the test configuration diagram will be used for this test.

Place a Routine call from A1 to NE1 and do not hang up.	Call completes. Y/N	Comments:
Place a Routine call from NE2 to A2 and answer from A1 after placing NE1 on hold.	Call completes between NE2 and A1 and NE1 on hold. Y/N	
Hang up all phones		
Place a Routine call from A1 to NE1 and do not hang up.	Call completes. Y/N	
Place a Priority call from NE2 to A2 and answer from A1 after placing NE1 on hold.	Call completes between NE2 and A1 and NE1 on hold. Y/N	
Repeat above for each precedence level.	Precedence ring and call completes. Y/N	

D-25.4 Hold and Retrieve (Criteria II-25.2d) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.4.

These procedures will verify the ability of EKTS subscribers to hold and retrieve calls. The same test setup as shown in the test configuration diagram will be used for this test.

Initiate a Routine call from Terminal A1 to subscriber NE1. Verify conversation and call appearance call handling on other Terminals.	Call completes. Y/N	Comments:
At Terminal A1 place the NE1 call on hold.	Call placed on hold. Y/N	
Retrieve the held call from another EKTS Terminal A3 and verify speech.	A3 is able to converse with NE1. Y/N	
Hang up all calls		
Initiate a Priority call from Terminal A1 to subscriber NE1. Verify conversation and call appearance call handling on other Terminals.	Precedence ring and Call completes . Y/N	
At Terminal A1 place the NE1 call on hold.	Call placed on hold. Y/N	
Retrieve the held call from another EKTS Terminal (A3) and verify speech.	A3 is able to converse with NE1. Y/N	
Hang up all calls		
Repeat above for all precedence levels	Precedence ring and Call completes. Y/N Precedence ring and Call completes. Y/N A3 is able to converse with NE1. Y/N	

D-25-4 Call Hold and Retrieve (continued).

Initiate a Routine call from Terminal NE1 to A1. Verify conversation and call appearance call handling on other Terminals.	Call completes. Y/N	Comments:
At Terminal A1 place the NE1 call on hold.	Call placed on hold. Y/N	
Retrieve the held call from another EKTS Terminal A3 and verify speech.	A3 is able to converse with NE1. Y/N	
Hang up all calls		
Initiate a Priority call from Terminal NE1 a non-EKTS subscriber) to A1. Verify conversation and call appearance call handling on other Terminals.	Precedence ring and Call completes. Y/N	
At Terminal A1 place the NE1 call on hold.	Precedence ring and Call completes. Y/N	
Retrieve the held call from another EKTS Terminal A3 and verify speech.	A3 is able to converse with NE1. Y/N	
Repeat above for all precedence levels.	Precedence ring and Call completes. Y/N Precedence ring and Call completes. Y/N A3 is able to converse with NE1. Y/N	

D-25.5 Bridging/DN-Bridging (Criteria II-25.2e) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.5.

These procedures will verify the ability of EKTS subscribers to bridge calls. The same test setup as shown in the test configuration diagram will be used for this test.

Initiate a Routine call to the analog terminal (A5) from subscriber NE1. Answer at A1 and verify speech.	Call completes. Y/N	Comments:
From A2 press the A1 call appearance and verify A2 has bridged into the conference.	A2 able to bridge in to call. Y/N	
Go on hook at A2.		
From the Analog subscriber, A5, go off-hook. Verify that A5 has bridged into the call.	A5 able to bridge in to call. Y/N	
Hang up all phones		
Initiate a Priority call to the analog terminal (A5) from a non-EKTS subscriber. Answer at A1 and verify speech.	Precedence ring and Call completes. Y/N	
From A2 press the A1 call appearance and verify A2 has bridged into the conference.	A2 able to bridge in to call. Y/N	
Go on hook at A2.		
From the Analog subscriber, A5, go off-hook. Verify that A5 has bridged into the call.	A5 able to bridge in to call. Y/N	
Repeat above for all precedence levels.	Precedence ring and Call completes. Y/N A2 able to bridge in to call. Y/N A5 able to bridge in to call. Y/N	
Hang up phones.		

D-25.6 Intercom Calling (Criteria II-25.2f) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.6.

These procedures will verify the ability of EKTS subscribers to make intercom calls. The same test setup as shown in the test configuration diagram will be used for this test. This test creates an intercom group with the three Terminals (A1 to A3), and assigns intercom number call appearances on the Terminals. In this test the numbers 11 through 13 are used for Terminals A1 through A3, and being assigned to intercom group 1.

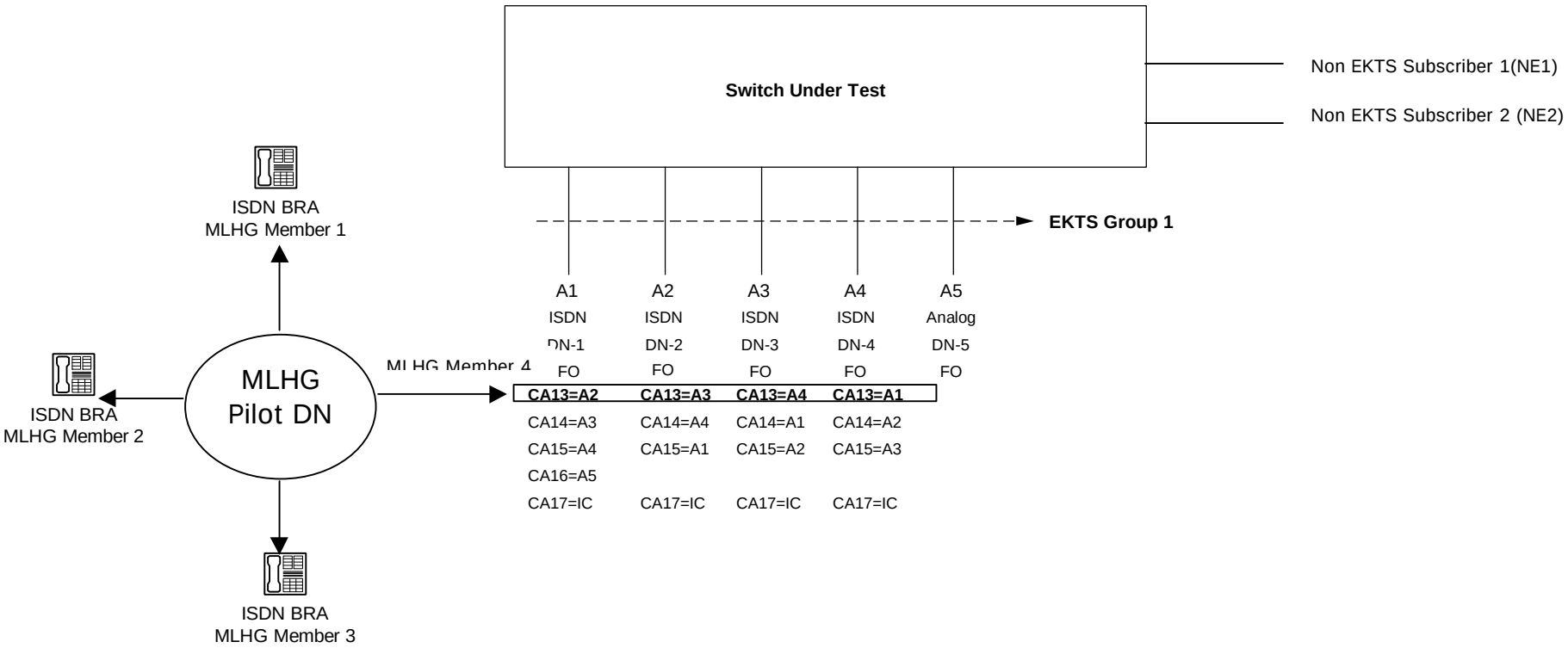
Originate a call from A1 to A2 dialing associated intercom number. Answer the call at A2. Verify calling and called intercom numbers on Terminals are displayed and that all other call appearance indicators are unchanged.	Call completes. Y/N Call appearances correct. Y/N	Comments:
Hang up phones		
Verify calls and Terminal displays for remaining terminals.	Calls complete. Y/N Call appearances correct. Y/N	
Hang up phones.		
Originate a call from A1 to A2 dialing associated intercom number. Answer the call at Terminal A2. Verify calling and called intercom numbers on Terminals are displayed and that all other call appearance indicators are unchanged.	Call completes. Y/N Call appearances correct. Y/N	

D-25-6 Intercom Calling (continued)

While the users are involved in Intercom Calling, place a Priority call to A1 from NE1 and answer the call.	Precedence ring and call completes. Y/N A2 is placed on hold. Y/N	Comments:
Hang up A1 and NE1. A1 return to intercom call with A2.		
Repeat above for all levels of precedence.	Precedence ring and call completes. Y/N A2 is placed on hold. Y/N	
Hang up phones.		

D-25.7. Membership in a Multiline Hunt Group (Criteria II-25.2g) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.7.

This test verifies that an EKTS group can be assigned as a member of a Multiline Hunt Group. Create an EKTS DN as a member of a Multiline Hunt Group (MLHG) as depicted in the configuration below. NE1 and NE2 are subscribers outside of the MLHG, both with Flash-Override precedence.



D-25.7. Membership in a Multiline Hunt Group (Continued)

Place a Routine call to the pilot DN of the MLHG. Depending upon where the last origination or termination occurred in the hunt group, one of the MLHG members will ring. Repeat the above procedure to insure all members of the MLHG are alerted.	All ISDN BRI members of the MLHG ring Y/N The EKTS members DN rings on all members of the EKTS. Y/N All Calls Completed Y/N	Comments:
Repeat the above steps for each level of precedence.	All ISDN BRI members of the MLHG ring Y/N The EKTS members DN rings on all members of the EKTS. Y/N All Calls Completed Y/N	
Place a Routine call to the MLHG pilot DN from NE1 and don't answer the call. Place a Priority call to the MLHG pilot DN. Answer the precedence call. Verify that the higher precedence call was connected and Routine call is still ringing.	Precedence Call Completed. Y/N	
Hang up all phones		

D-25.7. Membership in a Multiline Hunt Group (Continued)

Repeat above step at increasing levels of precedence. Verify that highest precedence call is offered and can be answered while lower precedence call is ringing.	Precedence Call Completed. Y/N	Comments:
Hang up all phones		
Initiate a routine call from a non MLHG and EKTS member to the MLHG Pilot DN. Answer the call and verify speech. Do not hang up	Call Completes. Y/N	
Repeat above step until all four lines in the hunt group are busy with routine calls	All lines Busy. Y/N	
Initiate a Priority call from NE1 to MLHG Pilot DN. Verify that a member of the MLHG receives preemption notification and then receives distinctive ringing or is notified of the correct precedence via the terminal display and the call can be answered. Verify speech then hang up the Priority Call and reestablish the Routine call by calling the MLHG pilot DN.	Preemption Notification is received Y/N Precedence display correct. Y/N Call completes. Y/N	

D-25.7. Membership in a Multiline Hunt Group (continued)

Repeat above step for all remaining precedence levels	Distinctive Ring. Precedence display correct. Call completes.	Y/N Y/N Y/N	Comments:
Initiate a Priority call from NE1 to MLHG Pilot DN. Verify that the MLHG member receives distinctive ringing and is notified of the correct precedence via the terminal display. Do not answer the call. Verify that the unanswered precedence call is diverted to the Alternate DN/ATTN. Hang up NE1.	Distinctive Ring. Precedence display correct. Call diverts.	Y/N Y/N Y/N	
Repeat above step for all remaining precedence levels.	Distinctive Ring. Precedence display correct. Call diverts.	Y/N Y/N Y/N	
Initiate a Priority call from NE1 to the Pilot DN for the MLHG. Answer the call and verify speech. Do not hang up.	Call completes.	Y/N	
Initiate a second Priority from NE2 to the Pilot DN and let it ring. Verify that the call is routed to the Alternate DN/ATTN.	Call diverts.	Y/N	
Hang up all phones			

D-25.7. Membership in a Multiline Hunt Group (continued)

Place a Routine call from a non EKTS and MLHG member to the MLHG pilot DN. Answer the call.	MLHG member rings Y/N Call completes. Y/N	Comments:
Place a Flash call from a non EKTS and MLHG member to the MLHG pilot DN. Answer the call.	MLHG member receives distinctive Ring. Y/N Precedence display correct. Y/N Call diverts. Y/N	
Place a Immediate call from a non EKTS and MLHG member to the MLHG pilot DN. Answer the call.	MLHG member receives distinctive Ring. Y/N Precedence display correct. Y/N Call diverts. Y/N	
Place a Priority call from a non EKTS and MLHG member to the MLHG pilot DN. Answer the call.	MLHG member receives distinctive Ring. Y/N Precedence display correct. Y/N Call diverts. Y/N	
Place a Flash-Override call from a non EKTS and MLHG member to the MLHG pilot DN. Answer the call.	Routine call is preempted Y/N Preemption Notification is received Y/N Flash-Override Call is completed Y/N	
Place a Flash-Override call from a non EKTS and MLHG member to the MLHG pilot DN. Answer the call.	Priority call is preempted Y/N Preemption Notification is received Y/N Flash-Override Call is completed Y/N	
Hang up all phones		

D-25.8. Abbreviated and Delayed Ringing. (Criteria II-25.2h) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.8.

This test verifies the alerting patterns that may be assigned on a TSP/DN/CT basis to a given station for a particular DN call appearance for that station. The available alert patterns are:

ABBR Station will ring for a limited time.
DELAYED Time elapse prior to station ringing.
NORMAL Normal ringing
Normal is the default.

For Terminal A1, change the alerting patterns for the DN call appearance for Terminal A2 to Abbreviated.	Alerting pattern changed.	Y/N	Comments:
For Terminal A1, change the alerting patterns for the DN call appearance for Terminal A3 to Delayed.	Alerting pattern changed.	Y/N	
Originate a call to the DN assigned to Terminal A2 and verify the Abbreviated ring pattern on Terminal A1. Do not answer the call. Allow the Abbreviated ring to continue until the Timer expires and ringing begins at Terminal A3, assigned as Delayed.	A1 gets abbreviated ring. Call diverts to A3.	Y/N Y/N	
After 60 seconds answer the phone and verify ringing stops.	Call Completes.	Y/N	
Hang up phones.			

D-25.9. Automatic and/or Manual Bridged Call Exclusion, (Criteria II-25.2i) JIEO Technical Report 8249 Table 21-3, SR-3476 Paragraph 2.1.3.1.9.

This test assigns the Bridged Call Exclusion feature. By activating the Bridged Call Exclusion feature, the user making a call on a Call Appearance is assured that another user on a different terminal cannot bridge onto the call, thereby assuring privacy. When the activate privacy key is initially pressed, the Bridged Call Exclusion feature is activated and all DN/CT Call Appearances are excluded from DN bridging. When the toggle key is pressed again, DN bridging will be allowed on all DN/CT Call Appearances.

Assign the Privacy feature to Terminal A3 and set for Manual.	Feature assigned.	Y/N	Comments:
Originate a call from Terminal A2 to Terminal A3. Answer the call at Terminal A3. Verify the "ACTIVATE PRIVACY? " display on the Terminal. Activate the privacy feature.	Feature activated.	Y/N	
Attempt to bridge onto call from another terminal and display should read 'request denied'. Verify there isn't a speech path.	Bridge attempt denied.	Y/N	
Deactivate the Privacy feature by pressing the check button and verify privacy feature is deactivated.	Feature deactivated.	Y/N	
Bridge onto the call again and verify bridging is allowed.	Bridge attempt allowed.	Y/N	
Hang up all phones			
Assign the Privacy feature to Terminal A3 and set for Automatic.	Feature assigned.	Y/N	
Originate a call from Terminal A2 to Terminal A3. Answer the call at Terminal A3.	Call Completes. .	Y/N	
Attempt to bridge onto call from another terminal and display should read 'request denied'. Verify there isn't a speech path.	Bridge attempt denied.	Y/N	

D-25.9. Automatic and/or Manual Bridged Call Exclusion (continued).

Deactivate the Privacy feature by pressing the check button and verify privacy feature is deactivated.	Feature deactivated.	Y/N	Comments:
Bridge onto the call again and verify bridging is allowed.	Bridge attempt allowed.	Y/N	
Hang up all phones			
Repeat above procedures using each precedence level.	All results the same.	Y/N	
Hang up all phones			